

The Empirical Research on the Performance Management-control: Over a Mobile Communications Group's Principal-agent Interface

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Abstract

During the process of enterprises' modernization, many kinds of principal-agent interfaces begin to exist between investors and agents. It is noticed that management-control over interface performance directly affects the group's operating results and strategic management-control, in particular, is the most common management-control methodology. On the background of relevant researches, this paper establishes the index system for the management-control over the interface performance based on the analysis of a mobile communications group. An empirical research result has been achieved after applying the method of AHP to determine the weight of each index.

Keywords

Principal-agent Interface; Performance Management-control; Empirical Study

Introduction

Economic development in a country is perceived to be mainly supported by the development of its domestic enterprise groups which ultimately have strong influence on enhancing national economy and strengthening its international competency. Currently, the performance appraisal always runs management-control model from parent to its subsidiary among a certain corporate. Investors, who provided the source capital, determines that management-control over the

interface performance is the origin of management, and will also be the core of management activities. It has been noticed that lack of management-control among a corporate group may result in serious problems. Hence, interface performance management-control consequently becomes an important issue in group management.

Literature Review

Research on the Performance Management

Xinyan Zhang (2006) pointed out that performance measurement would benefit an organization from the following perspectives. Firstly, it allowed the organization to assess its usage of resources in terms of effectiveness and efficiency, and provided better understanding in internal control and risk management. Secondly, from the strategic perspective, by evaluating past actions performance measurement it provided guidance for future decision-making and resource allocation [Dan Liu, 2006].

Bernardin and Beatty (1984) figured out that, performance was the results recorded which was produced in specific areas, particular in job functions, activities or behaviors [Patrica, 2005]. Jensen and Murphy (1990) thought that the performance was a set of behavior interrelated to organization goals.

Campbell (1993) thought that performance was actions or behaviors which was related to the organizational goals, and could be assessed based on individual capacity. Bates and Holton (1995) pointed out that "performance was a multidimensional construct. The results would be different when it was observed and measured in a different angle." From the management points of view, the performance was the result of applying organization expectations, which was, in other words, the effective output that the organization showed at different levels in order to achieve its goals, including both organizational and individual levels [Yahe Fu, Yulin Xu, 2006]. Varieties of organization's nature, purpose, function and operation caused the lack of a commonly accepted definition and measurement method for performance. By integrating the views of the scholars, there are certain elements as follows in general: (1)Performance of the organization is to what degree that an organization has achieved the goals. (2)Organizational performance is the reflection of members' satisfaction. (3)Organizational performance is operational efficiency. (4)Organizational performance is adaptable to environment. These procession achievements bring the guidance for the research of performance management.

Research on the Group Management-control

By taking use of the Cournot Model in economics, and basing on discussion of the construction defects of the parenting advantage, Yongchun Jing (2010) analyzed the relationship of the decision-making influence, impact of coordination and management control between parent and subsidiary companies. And then he raised the point that the reconstructive path and corresponding methods of the parenting advantage should be based on the establishment of relationship between the group and its subsidiary company, and a model of the unified strategy. These results enriched the related theories of the strategic management and the organizational management.

To determine the group's management-control model was a complex and systematic project. Also, in order to select the group's management-control model various factors [Lingfeng Zhou, 2007] to be considered, Wangang Bai who has been engaged in consulting for many years [Jinghua Zhao, Yongmei Huang, 2008] carried out a systematic study which focused on the group's management-control from different perspectives, such as strategy, corporate culture and human resource management etc, and this study

finally reached a good reputation in the market for its significant practical guidance value. These results effectively set up a bridge between theory and practice.

Academia and practice communities have been consistently concentrating on three basic models, which are the "financial management-control", "strategic management-control" and "business management-control", and the "business management-control" is a typical form for centralized organizations. On the contrary, the "investment management-control" is a typical form for decentralized organization [Biao Luo, Hongmei Ji, 2008]. Whereas the "strategic management-control" is based on the strategic control and fostering synergy effect.

Problems Existing in Recent Research and its Future Trend

A few years ago, research on group's management-control mostly concentrated on the financial perspective, risk control and organizational structure etc. Recently, scholars have begun to study it from the parenting advantage and the model of management-control. These results, however, seemed pale to excavate the source of competitive advantage. In the future we shall:

- (1) give prominence to the investors' control function in the process of the group's operation. Agent system has become a typical feature for modern business operations. The assignment of chairperson or the general manager involves in accountability and value creation for the investors. However, due to the fact that the information is asymmetric, adverse selection and moral hazard will emerge on management.
- (2) engage human capital and intellectual capital into the performance evaluation system. Theories and methods of the performance evaluation mostly focus on the dominant ideology of the physical capital, which is obviously lagging behind the modern theory's attention to human capital and intellectual capital.
- (3) lay prominence to the status of innovation in the performance evaluation system. Innovation has the key impact on accumulating and remaining of an enterprise' core competency. Evaluating the innovation performance comprehensively from designing the performance evaluation system, not only embodies the competence of enterprises, but also reflects the company's sustainable competitive advantage.

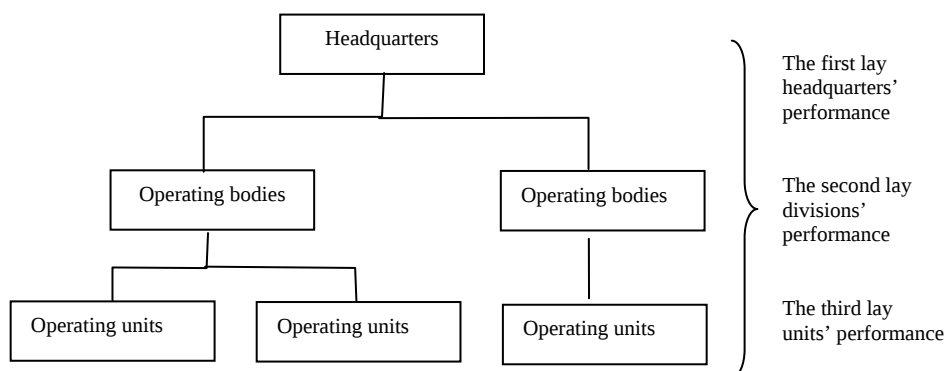


FIG. 1 THE PERFORMANCE MANAGEMENT SYSTEM IN THE DIFFERENT CLASS

(4) incorporate the performance evaluation with their overall strategic management process. The performance evaluation system should contribute to the tactical transformation and specific implementation of the corporate strategic objectives, from the transforming of the strategic objectives into a stage, concreting operational and understandable goals for most people, to integrate the performance evaluation system into the entire process of strategic management, which truly reflects the idea of serving for the strategic management.

Management-control Indicators of the Interface Performance

Group's Performance Management System

Compared with individual enterprises, performance anagement-control in enterprise groups has its uniqueness, where relationships are focused on those between investors and agents, corporate enterprises and unincorporated bodies, and links among their lower levels of units(or divisions), as shown in FIG. 1 [Wangang Bai, 2008].

The paper selects "strategic management-control" as the focus, for it is suitable when we take the view of the sequence that the communications group developed; it is necessary when we take the view of its operations; it is applicable in perspective of its performance management-control. We should focus on the study of performance appraisal from the group's headquarters to the senior officials of the subsidiary, which is the principal-agent interface performance management-control.

Management-control Model In The Principal-agent Interface

Asymmetric information transmission inevitably exists between the investors and agents, which easily leads

to the agent's control risk and manager's adverse selection. As a result, performance contracts used to as a form to bind the behavior of professional managers becomes the ideal choice with a legal background, therefore binding procedures should be established from this perspective. Shown as FIG. 2.

Layer structure of AHP

On the basis given above, we establish the structure, shown as FIG. 3.

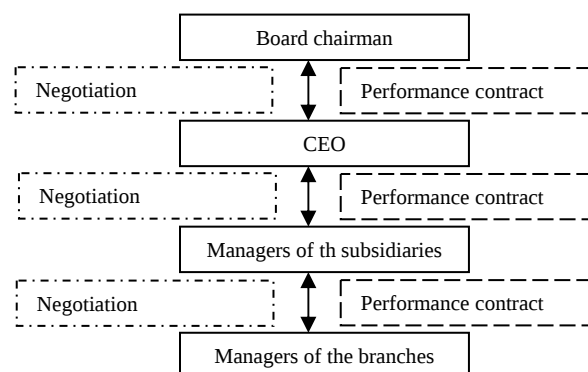


FIG. 2 THE LIMITED PROCESS OF THE PERFORMANCE CONTRACT

Weights of the Principal-agent Interface Performance Management-control index

The first priority should be placed on the performance evaluation system which requires financial data as the core, and incorporates financial indicators and quantitative indicators into performance contracts, in order to achieve the aim of restricting and motivating the managers in the subsidiaries(or branches) [Noe, et al, 2000]. However, considering the incompleteness of the contract, relationship between investors and agents needs to be regulated to alight the organization strategy and vision with personal goals, pursuit, belief and other aspects, which can be taken as a guarantee for the Group to achieve the purpose of performance control.

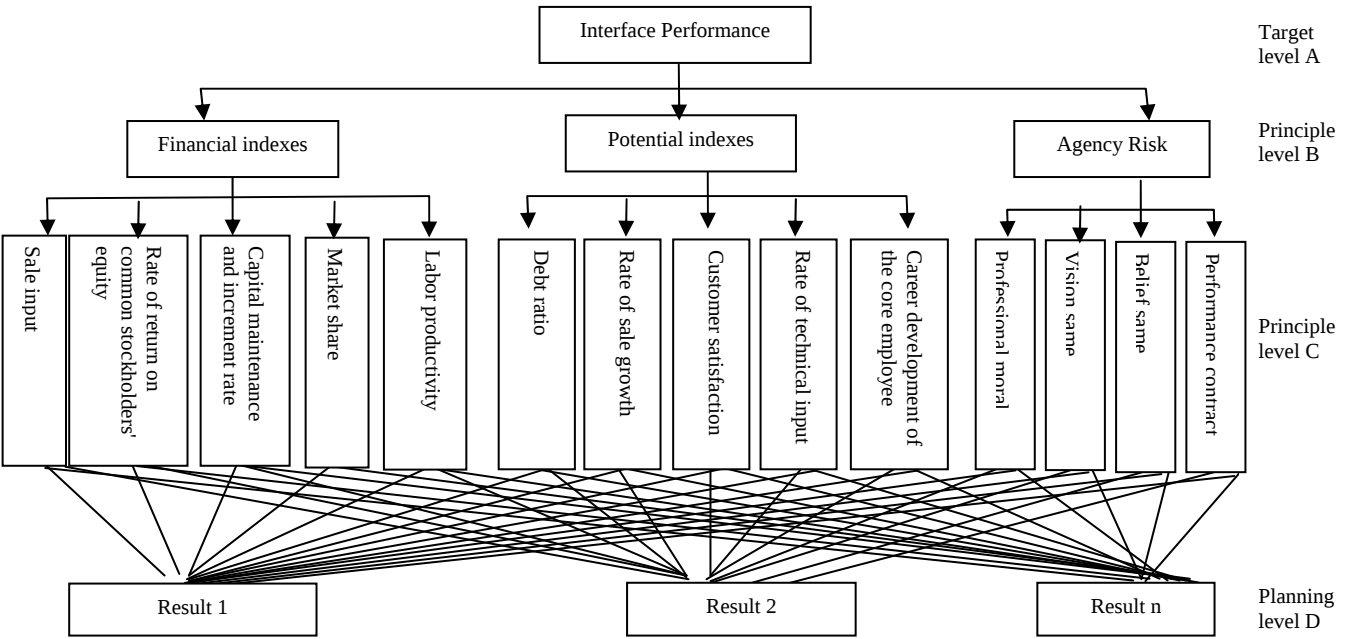


FIG. 3 THE LAYER STRUCTURE OF THE CORPORATION GROUP'S INTERFACE PERFORMANCE

TABLE1 THE JUDGEMENT MATRIX OF THE SECOND CLASSES INDEX FACING TO THE FIRST CLASS INDEX

Index	Financial indexes	Potential indexes	Agency Risk	Weight	Consistency
Financial indexes	1	3	1/4	0.6115	CR=0.0158<0.1, satisfy it
Potential indexes	2	1	1/3	0.2548	
Agency Risk	4	1/2	1	0.1338	

Then, we construct the judgment matrix of the indicator system. Application of Matlab software to calculate it, $\lambda_{\max} = 5.3940$, the corresponding eigenvector is $W = (0.1999 \ 0.3493 \ 0.9154)$, then get the results that $CI = 0.00915$, $RI = 0.58$, $CR = 0.0158 < 0.1$, satisfy the consistency. Shown as table 1.

Matlab software is applicated to calculate it, $\lambda_{\max} = 4.0211$, the corresponding eigenvectors is $W = (-0.2399 \ -0.4437 \ -0.8512)$, so as to get the results that $CI = 0.007$, $RI = 0.96$, $CR = 0.0073 < 0.1$, and satisfy the consistency. Shown as table 2.

Calculating the weights of indexes to the layer of index one by one. Subsequently, we can determine the comprehensive weight of a layer of index to the highest level of index, which reflects the importance of the index in the whole system. Shown as table 3.

The Empirical Research

Results of an Enterprise Group's Interface Performance Evaluation

We organized the independent directors of the group

to evaluate the performance of the principal-agent interface. In the process of gathering the data about quantitative indicators, the benchmarking method was adopted. Firstly, we assumed the best business industry-recognized for 100 points, and then by using a subsidiary's financial data of the benchmark index to divide the corresponding data, we got the score (optional percentile). For the qualitative indicators, we evaluated them by the method of Delphi, taking the mean as the final score. The results are shown as in table 3.

In order to compare in the industry, we establish the formula (1):

$$IF = \sum S \times W \tag{1}$$

Score in table 3 multiplies with the weight, and then cumulative, so we get:

$$IF = 59.99 \tag{2}$$

Main Problems and Solutions

(1) financial perspectives. The secondary financial indicators are low, which are the core cause for leading the low interface performance scores. Compared

TABLE 2 DESIGN OF THE INDEX'S WEIGHTS OF AGENCY RISK

Index	Professional moral	Vision same	Belief same	Performance contract	Weight	Consistency
Professional moral	1	1/2	2	1/4	0.1544	CR=0.0073<0.1, satisfy it
Vision same	2	1	3	1/2	0.2677	
Belief same	1/2	1/3	1	1/5	0.0837	
Performance contract	4	2	5	1	0.4942	

TABLE 3 THE WEIGHTS OF MANAGEMENT-CONTROL PERFORMANCE INDEX

The first index(A)	The second index(B)		The third index(C)			Total weight	Method
	variable	Weight	Observation variable	Weight	Score		
Interface performance	Financial indexes B ₁	0.612	Sale input C ₁₁	0.212	60	0.130	compared with the best company in the industry
			Rate of return on common stockholders' equity C ₁₂	0.194	60	0.119	
			Capital maintenance and increment rate C ₁₃	0.211	70	0.129	
			Market share C ₁₄	0.178	50	0.109	
			Labor productivity C ₁₅	0.205	60	0.125	
			Debt ratio C ₂₁	0.392	98	0.010	
	Potential indexes B ₂	0.255	Rate of sale growth C ₂₂	0.158	80	0.040	questionnaires compared
			Customer satisfaction C ₂₃	0.110	88	0.028	
			Rate of technical input C ₂₄	0.108	70	0.026	
			Career development of the core employee C ₂₅	0.232	90	0.059	
			Professional moral C ₃₁	0.112	80	0.015	interview to the managers and experts
	Agency risk B ₃	0.134	Vision same C ₃₂	0.235	76	0.031	
			Belief same C ₃₃	0.264	60	0.035	
			Performance contract C ₃₄	0.389	70	0.052	

with the sales input, the agent has some significant shortcomings in operation, which shows that there is great potential to get improved. Therefore, the increase shall be firstly committed to it, or alternatively to open up new regional markets to increase the sales. Secondly, although the structure of the corporate assets is superior, the ROE is comparatively low, which indicates that the companies did not make efficient use of financial leverage, as a result, the company is in a passive position to competition. Thirdly, the enterprise has more capital precipitation in previous operations, but revitalizing the capital stock and raising capital maintenance is the most important viable options. Finally, in order to make efficient use of human resources and improve labor productivity, we should strengthen the basis for management from the entire procedure of human resource management, such as planning, job analysis, re-configuration, evaluation, compensation and employee relations. This is the inevitable choice called on to deepen the level of competition in the modern market.

(2) future potential. Both rate of sales growth and rate of technical input in the third level of financial indicators are low, which is the important cause for leading to a low performance score. The financial resources of enterprises won't be revitalized until we reduce the debt ratio and strip bad debt. The company should improve the rate of sale growth; especially it must be greater than the benchmark, if the company intends to exceed the business models, otherwise, the

gap will be widening. In order to commit on developing new products and improving the efficiency of production line to reduce costs, the company should start from doing market research and feasibility studies for new products and technology, and also pay attention to technical innovation. Continued focus on the career development of core staff and assistance in their career planning and building for them are also important.

(3) corporate governance. The secondary non-financial indicators are low, which is the secondary cause leading to low performance scores. At this stage, to strengthen the professional ethics is difficult, but the company should consistently strengthen it to reduce agency risk and maximize the efficiency. Aligning the vision and belief of investor's with professional managers'. In particular, companies should promote the recognition of proper values and target of an agent for the investors. Strict performance contracts make up for the lack of psychological contract from the contract's format, content, etc. in order to reduce the communication costs between the principal and the agent, and obtain the maximum benefits for both sides.

Conclusions

In the Enterprise Group's principal-agent interface performance management-control, it is extremely important that the financial indicators reacting the present and future. Since the investors and agents have different goal orientation, strict performance

contracts are necessary. In addition, in order to reduce agency risk, professional moral, vision and beliefs and other psychological contracts supplement are in demand as well.

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